

Message Text

UNCLASSIFIED

PAGE 01 STATE 000930
ORIGIN ERDA-07

INFO OCT-01 ARA-10 ISO-00 ACDA-10 CIAE-00 INR-07 IO-13
L-03 NSAE-00 NSC-05 EB-07 NRC-07 OES-06 DODE-00 FEA-01
SSO-00 NSCE-00 USIE-00 INRE-00 AID-05 CEA-01 CIEP-02
COME-00 FPC-01 H-02 INT-05 OMB-01 PM-04 SP-02 SS-15
STR-04 TRSE-00 CU-04 /123 R

DRAFTED BY USERDA/AIA/IRDP/TP:DFOSTER:CG
APPROVED BY OES/NET:DHOYLE
USERDA/AIA/IRDP/TP:HJAFJE
USERDA/AIA/IRDP:JVANDERRYN
OES/NET:DHCOOPER
ARA/ECA:RELTZ
OES/NET/IM:MPROCHNIK

-----042229Z 071186 /74-61

O 042047Z JAN 77
FM SECSTATE WASHDC
TO AMEMBASSY BRASILIA IMMEDIATE
INFO AMCONSUL RIO DE JANEIRO IMMEDIATE

UNCLAS STATE 000930

E.O. 11652: N/A

TAGS: TECH,ENRGY,BR

SUBJECT: ERDA HYDROGEN TEAM VISIT TO BRAZIL

REF: (A) BRASILIA 9992; (B) BRASILIA 10319; (C) BRASILIA
-- 10472

1. THIS CONFIRMS OUR INTENTION TO RESCHEDULE VISIT OF U.S.
ERDA HYDROGEN TEAM FROM THE PREVIOUSLY PLANNED DECEMBER 13-
17 AS PER TELEPHONE CONVERSATIONS WITH EMBASSY BRASILIA AND
WITH EMBASSF BRASILIA AND WITH DR. PAULO KRAHE'S OFFICE.

2. WE REGRET THE NECESSITY FOR THE RESCHEDULING BUT UN-
UNCLASSIFIED

UNCLASSIFIED

PAGE 02 STATE 000930

EXPECTED PROBLEMS WITH AVAILABILITY OF PERSONNEL AND
UNUSUAL DOMESTIC PROGRAM ACTIVITIES PREVENTED CONVENING
TEAM FOR REVIEW AND PLANNING IN TIME FOR ORIGINAL SCHEDULE
AND MADE IT ADVISABLE TO POSTPONE IN ORDER TO GET MAXIMUM
UTILITY FROM THE PROPOSED MEETING. DELAY IN NO WAY INDI-
CATES LESSENING OF INTEREST ON ERDA PART.

3. -----TEAM MEMBERS RESCHEDULED VISIT IS WEEK OF JANUARY 9. APPRECIATE EARLY CONFIRMATION OF BRAZILIAN REACTION. TEAM MEMBERS WILL BE DR. JAMES SWISHER, ERDA HDQTRS, MR. FRANK J. SALZANO OF THE BROOKHAVEN NATIONAL LABORATORY AND MR. DEREK GREGORY OF THE INSTITUTE OF GAS TECHNOLOGY. OUR UNDERSTANDING OF TENTATIVE ARRANGEMENTS IS AS REPORTED BY REF (A).

UNCLASSIFIED

4. IN ORDER THAT THE VISIT BE MOST USEFUL WE WOULD SUGGEST THE VISIT BEGIN WITH DISCUSSIONS WITH THE GOVERNMENT REPRESENTATIVES (KRAHE AND COHORTS) FOR AN OVERVIEW AND PLANNING SESSION FOR THE REMAINDER OF THE VISITS. IT MAY BE USEFUL TO HAVE A WRAP-UP SESSION WITH THEM AT CLOSE OF VISIT ALSO.

5. FOR OUR PLANNING PURPOSES, IT WOULD BE HELPFUL TO HAVE SOME MORE DETAIL ON THE SCHEDULE AS SOON AS POSSIBLE, INCLUDING DATES AND NAMES OF PRINCIPALS AT EACH ORGANIZATION OR SITE TO BE VISITED.

6. THE FOLLOWING QUESTIONS HAVE BEEN PREPARED BY THE ERDA TEAM TO SERVE AS A BASIS FOR DISCUSSIONS DURING THE VISIT AND FOR BACKGROUND MATERIAL IN CONSIDERING FURTHER DEVELOPMENT OF AREAS FOR COOPERATION. ANY INFORMATION NOT AVAILABLE DURING THE VISIT WOULD BE APPRECIATED AS SOON THEREAFTER AS POSSIBLE.

A. GENERAL: ENERGY UTILIZATION, POLICY AND RESOURCES

UNCLASSIFIED

UNCLASSIFIED

PAGE 03 STATE 000930

1. IT WOULD BE USEFUL TO HAVE A DESCRIPTION OF THE PATTERN OF PRESENT AND PROJECTED ENERGY CONSUMPTION AND ENERGY RESOURCES FOR BRAZIL.

2. WHAT ARE THE BASIC INCENTIVES FOR BRAZIL TO DEVELOP HYDROGEN? WHAT IS THE RELATIVE IMPORTANCE OF:

LONG DISTANCE ENERGY TRANSMISSION

ABUNDANCE OF HYDROPOWER

ABSENCE OF AN ESTABLISHED ENERGY DELIVERY NETWORK

OTHER

3. WHAT MAJOR ENERGY SOURCES ARE BEING CONSIDERED? WHAT ARE THE RELATIVE IMPORTANCE OF:

HYDROPOWER

NUCLEAR

SOLAR

BIOMASS
FOSSIL FUELS

4. A DESCRIPTION OF THE NUMBER AND LOCATION OF PROSPECTIVE HYDROELECTRIC PRODUCTION SITES AND THE POTENTIAL ENERGY PRODUCTION PER YEAR IN KILOWATT HOURS AS WELL AS THE POTENTIAL UTILIZATION FACTORS IS REQUESTED.

5. TO WHAT EXTENT IS PRODUCER GAS (FROM COAL) OR GAS DERIVED FROM OIL USED CURRENTLY IN BRAZIL?

6. WHAT NEEDS ARE FORESEEN IN BRAZIL FOR ENERGY STORAGE IN CONNECTION WITH ELECTRICITY PRODUCTION CLOSE TO POPULATION CENTERS? (ANY INFORMATION ON ELECTRIC UTILITY LOAD PROFILES, MIX OF GENERATING EQUIPMENT, UTILIZATION FACTORS, ETC., WOULD BE OF INTEREST.)

UNCLASSIFIED

UNCLASSIFIED

PAGE 04 STATE 000930

B. PRESENT PROGRAMS ON HYDROGEN AND ENERGY STORAGE

1. WHAT ARE THE OVERALL OBJECTIVES OF THE BRAZILIAN HYDROGEN PROGRAM?

2. IT WOULD BE USEFUL TO HAVE A LIST OF PROJECTS UNDERWAY IN BRAZIL DEALING WITH ALL ASPECTS OF HYDROGEN PRODUCTION, (ELECTROLYTIC, THERMOCHEMICAL, PHOTOCHEMICAL OR OTHER), ALL ASPECTS OF STORAGE, TRANSMISSION AND DISTRIBUTION AND UTILIZATION IN END USE DEVICES INCLUDING AUTOMOTIVE SYSTEMS (IF AVAILABLE, A COMPILATION OF ABSTRACTS OF EACH PROJECT INDICATING THE PRINCIPAL INVESTIGATOR, ORGANIZATION (INCLUDING ADDRESS), SPONSORING ORGANIZATION AND THE LEVEL OF FUNDING WOULD BE HELPFUL).

3. A BIBLIOGRAPHY OF SYSTEMS STUDIES RELATED TO THE UTILIZATION OF HYDROGEN AS AN ENERGY CARRIER IN BRAZIL IS REQUESTED.

4. HAS A DECISION BEEN MADE TO IMPLEMENT A HYDROGEN SYSTEM, OR IS PRESENT WORK AIMED AT FEASIBILITY, ECONOMICS AND EXPLORATION TO IDENTIFY BEST AREAS FOR FURTHER WORK?

5. HAS THERE BEEN A STUDY IN BRAZIL OF THE RELATIVE MERITS OF TRANSPORTING HYDROGEN BY PIPELINE VERSUS BY RAIL OR OTHER MADE?

UNCLASSIFIED

6. WHAT EXPERIENCE WITH CRYOGENIC STORAGE OF HYDROGEN IS

AVAILABLE IN BRAZIL?

7. WHAT END USES FOR HYDROGEN ARE BEING CONSIDERED IN BRAZIL? WHAT ARE THE RELATIVE IMPORTANCE FOR:

UNCLASSIFIED

UNCLASSIFIED

PAGE 05 STATE 000930

RESIDENTIAL - HEATING, COOLING, COOKING, HOT WATER
INDUSTRIAL FUEL
CHEMICAL FEEDSTOCK
TRANSPORTATION FUEL

8. HAS CONSIDERATION BEEN GIVEN IN BRAZIL TO UNDERGROUND STORAGE OF HYDROGEN? WHAT EFFORTS HAVE BEEN MADE TO IDENTIFY PROSPECTIVE SITES, ESPECIALLY IN ASSOCIATION WITH HYDROELECTRIC PRODUCTION SITES?

9. WHAT IS THE PRESENT OPINION IN BRAZIL OF THE TIME SCALE FOR INTRODUCING HYDROGEN ENERGY? WHAT ARE SEEN AS THE MAJOR TECHNICAL AND NON-TECHNICAL PROBLEMS THAT HAVE TO BE OVERCOME.

10. WHAT PROGRAMS ARE IN PROGRESS IN THE GENERAL AREAS OF ENERGY STORAGE, ASIDE FROM HYDROGEN?

11. WHAT ARE BRAZIL'S INTERESTS IN THE DEVELOPMENT OF FUEL CELLS FOR EITHER CENTRAL STATION ELECTRIC PRODUCTION OR TRANSPORTATION APPLICATIONS.

C. AREAS AND METHODOLOGY FOR US-BRAZIL COOPERATION

1. WHAT ARE BRAZIL'S OPINIONS ON HOW COOPERATIVE R&D WITH THE US SHOULD BE ARRANGED? SOME OPTIONS ARE JOINTLY FUNDED PROJECTS, DIVIDING TECHNICAL RESPONSIBILITIES FOR LARGE PROJECTS, AND EXCHANGE OF INFORMATION ON INDEPENDENTLY CONDUCTED PROJECTS OF MUTUAL INTEREST.

2. DOES BRAZIL AGREE WITH THE U.S. THAT R&D ON TRANSMISSION SYSTEMS AND UNDERGROUND STORAGE ARE ATTRACTIVE AREAS FOR COOPERATIVE PROJECTS?

3. ARE ANY LARGE SCALE "DEMONSTRATIONS" OR TRIAL SYSTEMS PLANNED FOR BRAZIL? WOULD COOPERATIVE U.S.-BRAZILIAN
UNCLASSIFIED

UNCLASSIFIED

PAGE 06 STATE 000930

FIELD TRIALS AND DEMONSTRATIONS, WITHIN BRAZIL, BE OF

INTEREST?

4. BRAZIL IS SENDING A PERSON TO BROOKHAVEN NATIONAL
LABORATORY FOR TWO MONTHS IN JANUARY AND FEBRUARY 1977.
WHAT KIND OF EXCHANGE PROGRAM OF PERSONNEL DO THE
BRAZILIANS ENVISION?
KISSINGER

UNCLASSIFIED

NNN

Message Attributes

Automatic Decaptioning: X
Capture Date: 01-Jan-1994 12:00:00 am
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: SCIENTIFIC VISITS
Control Number: n/a
Copy: SINGLE
Sent Date: 04-Jan-1977 12:00:00 am
Decaption Date: 01-Jan-1960 12:00:00 am
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01-Jan-1960 12:00:00 am
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1977STATE000930
Document Source: CORE
Document Unique ID: 00
Drafter: DFOSTER:CG
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Expiration:
Film Number: D770003-0756
Format: TEL
From: STATE
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1977/newtext/t19770181/aaaacsxe.tel
Line Count: 231
Litigation Code IDs:
Litigation Codes:
Litigation History:
Locator: TEXT ON-LINE, ON MICROFILM
Message ID: 1a015ddd-c288-dd11-92da-001cc4696bcc
Office: ORIGIN ERDA
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 5
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: 77 BRASILIA 9992, 77 BRASILIA 10319, 77 BRASILIA 976
Retention: 0
Review Action: RELEASED, APPROVED
Review Content Flags:
Review Date: 12-Oct-2004 12:00:00 am
Review Event:
Review Exemptions: n/a
Review Media Identifier:
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 3665694
Secure: OPEN
Status: NATIVE
Subject: ERDA HYDROGEN TEAM VISIT TO BRAZIL
TAGS: TECH, ENRG, OTRA, BR, US, ERDA
To: BRASILIA
Type: TE
vdkgvwkey: odb://SAS/SAS.dbo.SAS_Docs/1a015ddd-c288-dd11-92da-001cc4696bcc
Review Markings:
Margaret P. Grafeld
Declassified/Released
US Department of State
EO Systematic Review
22 May 2009
Markings: Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 22 May 2009